

**ABSTRACT**

A device for simultaneously coupling and modulating incident radiation to a single mode optical fiber based on a solid state truncated integrated Mach-Zehnder interferometer having a back end formed by two converging radiation channels converging at an angle  $\theta$  and terminating prior to overlapping. The angle  $\theta$  is calculated to produce in an interference zone formed by the exiting radiation a primary constructive interference fringe that provides an optimum match to an input fiber mode of a fiber positioned within the interference zone. Phase shifting elements in the radiation propagation paths provide a linear shift of the constructive interference fringe across the input of the fiber optic in response to an analog signal.